

REMARKS

This paper is in response to the official action dated February 20, 2008 (hereafter, "the official action"). This paper is timely filed as it is accompanied by a petition for extension of time and the requisite fee. The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith to our Deposit Account No. 13-2855, under Order No. IFT-5776 (31203/30028).

Claims 1-19 and 21-38 are currently pending. By the foregoing, claims 11 and 23 have been amended. No new matter has been added.

Claims 1-7, 11, and 21-38 have been rejected as obvious over U.S. Patent No. 5,916,596 to Desai *et al.* (Desai). Claims 1-9, 11, and 21-38 have been rejected as obvious over Desai in view of U.S. Patent No. 5,009,819 to Popescu *et al.* (Popescu '819), over Desai in view of U.S. Patent No. 6,090,406 to Popescu *et al.* (Popescu '406), and over Desai in view of Popescu '406 and Popescu '819. Finally, all pending claims 1-19 and 21-38 have been rejected as obvious over U.S. Patent No. 4,826,689 to Violanto *et al.* (Violanto) in view of U.S. Patent No. 5,922,355 to Parikh *et al.* (Parikh) and U.S. Patent No. 6,079,508 to Caza (Caza), or over Violanto in view of Parikh in further view of Popescu '406.

Additionally, claims 8, 9, 11, 17, 18, and 23 have been rejected under 35 U.S.C. §112, second paragraph, as assertedly indefinite.

The various bases for the claim rejections are addressed below in the order presented in the official action. Reconsideration of the application is respectfully requested.

CLAIM REJECTIONS – 35 U.S.C. §112

Claims 8, 9, 11, 17, 18, and 23 have been rejected under 35 U.S.C. §112, second paragraph, as assertedly indefinite. The applicants respectfully traverse the rejections.

With respect to the rejection of claims 8, 9, 17, and 18, polysaccharides and celluloses are amphiphilic and thus properly described as surfactants.

With respect to claims 11 and 23, the applicants respectfully submit that these claims were not indefinite under 35 U.S.C. §112, because a claim is considered definite as long as "the scope of the claims is clear so the public is informed of the boundaries of what constitutes infringement of the patent." *See* M.P.E.P. §2173. Nevertheless, the rejections of claims 11 and 23 for indefiniteness should be withdrawn in view of the amendments to claims 11 and 23 presented herein.

CLAIM REJECTIONS – 35 U.S.C. §103

Claims 1-9, 11, and 21-38 have been variously rejected as obvious over Desai alone, or in view of Popescu '406 and/or Popescu '819. Additionally, all pending claims 1-19 and 21-38 have been variously rejected as obvious over the combination of Violanto and Parikh in view of Caza or Popescu '406. The applicants respectfully traverse the rejections.

As an initial matter, the applicants again submit that the disclosure in U.S. Patent Publication No. 2003/0096013 to Werling et al., which was cited at page 4 of the action, is not available as a reference against the pending claims under any section of 35 U.S.C. §102, as explained in applicants' previous response. Although the examiner stated that the claims are not being rejected over this document, the document was again cited at page 4 of the action. Clarification is respectfully requested as the referenced section of the document is not available as prior art.

None of the cited documents discloses or suggests “evaporating essentially all of the water immiscible organic solvent by sonicating the system at a temperature below room temperature,” thereby decreasing the solubility of the pharmaceutically effective compound in the system and precipitating particles of the compound from the organic phase into the aqueous phase, the particles having an average effective particle size of less than about 2 μm ” as recited by claims 1-24 and 30-34. Similarly, none of the cited documents discloses or suggests “evaporating essentially all of the water immiscible organic solvent by sonicating the system at a temperature below room temperature,” thereby decreasing the solubility of the pharmaceutically effective compound in the emulsion and precipitating the compound to form a suspension of submicron sized particles,” as recited by claims 25-29 and 35-38.

In Desai, the applicants respectfully submit that sonication is not used to achieve evaporating, as claimed.¹ In support of this assertion, the applicants respectfully submit that Desai explicitly states that “[o]ptionally, the organic and/or aqueous phases are thereafter removed from the mixture after having been subjected to high shear conditions.” See Desai at column 7, lines 52-54 (emphasis added). While the examiner suggested that the “optional” nature of this description does not support the applicants' position (at page 5 of the action), the applicants respectfully submit that the examiner is misconstruing the aforementioned disclosure. The optional aspect of this teaching merely means the solvent *may or may not be removed after subjecting the mixture to high shear conditions*. In each instance, Desai

¹ The examiner appeared to acknowledge the deficiencies of Desai at page 6 of the action, by stating “Desai however does not teach that the sonication process is used to remove the organic solvent.” Thus, the continued rejection of claims over Desai alone is improper.

contemplates the use of high shear conditions. The aforementioned disclosure merely means that, after the mixture is subjected to high shear, a further, distinct step of evaporating can be accomplished by “the use of rotary evaporators, falling film evaporators, spray driers, freeze driers, and the like.” See Desai at column 9, lines 43-45. Accordingly, Desai differentiates between subjecting a mixture to high shear conditions (such as, for example, by sonication) and evaporating essentially all of the solvent therefrom. The optional nature of this step is not relevant to whether Desai distinguishes between high shear conditions and evaporating steps.

In view of the foregoing discussion, the applicants respectfully submit that Desai does not disclose or even suggest evaporating essentially all of the water immiscible organic solvent by sonicating the system/emulsion at a temperature below room temperature, thereby precipitating particles of a compound, as recited by all pending claims.

Neither Popescu ‘406 nor Popescu ‘819, whether taken alone or in any combination with Desai, remedy this deficiency.

For example, Popescu ‘819 discloses that “the mixture was sonicated at room temperature (18° to 20° C.) while concomitantly evaporating the ether with a stream of nitrogen.” See Popescu ‘819 at column 7, lines 9-11. Accordingly, like Desai, Popescu ‘819 teaches that evaporation and sonication are distinct and different techniques, and thus does not disclose or even suggest evaporating essentially all of the water immiscible organic solvent by sonicating the system/emulsion at a temperature below room temperature, thereby precipitating particles of a compound, as recited by all pending claims.

Additionally, Popescu ‘406 merely discloses sonicating a solution contained in a water bath at 47° C., which corresponds to a *temperature in excess* of the boiling point of ether (i.e., the solution solvent). Sonication was continued until “substantially all ether” therein was evaporated, but sonication was not performed as claimed, because heat was applied to remove the solvent in contrast to the claimed subject matter, which recites “*sonicating at a temperature below room temperature.*” Accordingly, Popescu ‘406 does not teach or suggest “that the sonication process can be used to remove organic solvent,” as asserted by the examiner, and more specifically, as claimed.

Moreover, Popescu ‘819 and Popescu ‘406 do not provide any “expectation of obtaining the best possible results since the reference of Popescu (819) shows that the sonication process could be practiced below the room temperature,” as asserted by the

examiner at pages 3 and 7 of the action. No such expectation of best possible results has been established or even proposed by the examiner.

Accordingly, the rejections over Desai alone, or in view of Popescu '406 and/or Popescu '819, should be removed.

The rejections over the combination of the combination of Violanto and Parikh in view of Caza or Popescu '406 are also deficient.

The examiner appears to assert at page 9 of the action that using a nonsolvent to precipitate a compound as disclosed in Violanto is analogous to evaporating. Violanto, however, provides no basis for this conclusion as no evaporating step is disclosed or *even* contemplated by Violanto. Thus, Violanto does not suggest the desirability of performing an evaporating step, much less evaporating essentially all of the water immiscible organic solvent by sonicating the system/emulsion at a temperature below room temperature, thereby precipitating particles of a compound, as claimed. While Violanto discloses separating he formed particles from an organic solvent, this disclosure does not provide the skilled artisan with sufficient motivation to evaporate essentially all of the water immiscible organic solvent by sonicating the system/emulsion at a temperature below room temperature, thereby precipitating particles of a compound, as recited by all claims.

Parikh also fails to disclose or suggest an evaporating step at all. The examiner is correct in that Example 1 of Parikh discloses sonicating a mixture including particles. Parikh, however, discloses using sonication to coat particles to retard particle growth (see column 2, lines 24-33) and thus also does not provide the skilled artisan with any motivation or suggestion to evaporate essentially all of the water immiscible organic solvent by sonicating the system/emulsion at a temperature below room temperature, thereby precipitating particles of a compound, as recited by all claims.

The examiner indicated that Caza "teaches that solvents can be removed by sonication" and references column 6, lines 9-18, in support. However, the cited passage does not establish such a teaching. Rather, the disclosure cited by the examiner utilizes elevated temperatures in a scraper apparatus 15 to achieve recovery of solvents by use of a condenser 20 and is entirely unrelated to the ultrasonic processor apparatus 8 disclosed therein.

The deficiencies of Popescu '406 have already been discussed. Heat in excess of room temperature is used to effect evaporation, not sonication, as claimed.

For a *prima facie* case of obviousness to be established, the teachings from the prior art itself must appear to have suggested the claimed subject matter to one of ordinary skill in

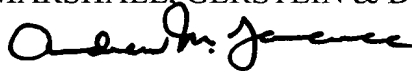
the art. *See In re Rinehart*, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976). The mere fact that the prior art could be modified as proposed by the examiner is not sufficient to establish a *prima facie* case of obviousness. *See In re Fritch*, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992). The examiner has not established that any of the cited documents would have indicated to one of ordinary skill in the art the desirability of evaporating essentially all of the water immiscible organic solvent by sonicating the system/emulsion at a temperature below room temperature, thereby precipitating particles of a compound, as recited by all claims. Thus, the record indicates that the examiner combined the references using the appellants' disclosure as a template, which is improper. *See Fritch*, 972 F.2d at 1266, 23 USPQ2d at 1784. Accordingly, the claim rejections should be reversed.

CONCLUSION

It is respectfully submitted that this application is now in condition for allowance. Should the examiner wish to discuss the foregoing, or any matter of form or procedure in an effort to advance this application to allowance, he is respectfully invited to contact the undersigned attorney at the indicated telephone number.

Respectfully submitted,

MARSHALL, GERSTEIN & BORUN LLP



Andrew M. Lawrence, Reg. No. 46,130
Attorney for Applicants
6300 Sears Tower
233 S. Wacker Drive
Chicago, Illinois 60606-6357
(312) 474-6300

June 20, 2008